| Ref<br>#  | Hits  | Search Query  | DBs   | Default<br>Operator | Plurals | Time Stamp       |
|-----------|-------|---|---|---------------------|---------|------------------|
|           | 1549  | baker-kevin-p.in.   | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR                  | ON      | 2004/12/29 11:45 |
| <b>L3</b> | 13    | baron-will-f.in.  | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR                  | ON      | 2004/12/29 11:46 |
| <b>L4</b> | 2     | "6825324"   | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR                  | ON      | 2004/12/29 11:46 |
| L5        | 2     | "6001621".pn.   | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR                  | ON      | 2004/12/29 11:50 |
| <b>L6</b> | 1073  | protein same tyrosine same kinase<br>same nucleic same acid                   | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR                  | ON      | 2004/12/29 11:50 |
| L7        | 821   | protein same tyrosine same kinase same vector                                 | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR                  | ON      | 2004/12/29 11:50 |
| L9        | 42643 | protein same tyrosine same kinase<br>host same cell same nucleic same<br>acid | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR                  | ON      | 2004/12/29 11:51 |

SEQ ID NO: 3

# SUMMARIES

|           |         | *        |            |      |                       |                        |
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|           |         |          | 2631       | 12   | AY335786              | AY335786 Synthetic     |
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|           | 2375.8  | 65.3     | 3659       | 10   | AF026259              |                        |
|           | 2354.8  | 64.7     | 3674       | 10   | MUSCAK                | L57509 Mus musculu     |
| 22        | 2314    | 63.6     | 3743       | 10   | RATPTK3D              | L26525 Rattus norv     |
| 23 1      | 1283.8  | 35.3     | 2582       | 10   | BC065998              | BC065998 Mus muscu     |
| 24 1      | 1272.8  | 35.0     | 1593       | 9    | AK130776              | AK130776 Homo sapi     |
| 25        | 1197    | 32.9     | 1197       | 6    | AR094162              | AR094162 Sequence      |
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| AR094160  |         |          |            |      |                       |                        |
| LOCUS     | 700     | 94160    |            |      | 3637 bp DNA           | linear PAT 08-SEP-2000 |
|           |         |          | 2 from 1   | nate |                       | TIMEGE THE OU DE EGGG  |
| DEFINITIO |         |          | 3 LLOIII J | pace | nt US 6001621.        |                        |
| ACCESSION |         | 94160    |            |      | 0.05                  |                        |
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| SOURCE    | Unk     | nown.    |            |      |                       |                        |
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|           | Unc     | :lassif: | ied.       |      |                       |                        |
| REFERENCE | E 1     | (bases   | 1 to 3     | 637) |                       |                        |
| AUTHORS   | S God   | lowski,  | P.J., M    | ark, | M.R. and Scadden,D.T. |                        |
| TITLE     | Pro     | tein t   | yrosine    | kin  | ases                  |                        |
| JOURNAI   | L Pat   | ent: U   | S 60016    | 21-A | 3 14-DEC-1999;        |                        |
| FEATURES  |         |          |            |      | alifiers              |                        |
| soui      | rce     |          | 1363       | 7    |                       |                        |
|           |         |          |            |      | unknown"              |                        |
|           |         |          |            |      | unassigned DNA"       |                        |
| ORIGIN    |         |          | ,or_cy     | pc-  | unabbighed bim        |                        |
| ORIGIN    |         |          |            |      |                       |                        |
| 0         | h       |          | 1.0        | ላ ሳል | ; Score 3637; DB 6;   | Length 2627.           |
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| DEFINITIO | ON Sec  | quence : | 3 from     | pate | nt US 6087144.        |                        |
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| SOURCE    |         | nown.    |            |      |                       |                        |
|           |         |          |            |      |                       |                        |

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Scadden, D.T., Baker, K.P. and Baron, W.F.
  AUTHORS
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VERSION
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            Unclassified.
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            Godowski, P.J., Mark, M.R. and Scadden, D.T.
            Nucleic acids encoding protein tryosine kinases
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                                                                             0;
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                       3962 2 AAT93785
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ORGANISM Unknown.

REFERENCE

Unclassified.
1 (bases 1 tó 3637)

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                    93US-00153397.
XX
     (ULLR/) ULLRICH A.
PA
     (ALVE/) ALVES F H E.
PΑ
XX
     Ullrich A, Alves FHE;
ΡI
XX
     WPI; 1997-511869/47.
DR
DR
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XX
     Truncated receptor tyrosine kinase CCK-2 - and nucleic acid coding for
PT
     it, useful for cancer diagnosis.
РΤ
XX
     Disclosure; Fig 1; 70pp; English.
PS
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     The present sequence represents the cDNA of a mammary carcinoma kinase,
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     called MCK-10. This kinase belongs to a novel family of receptor tyrosine
CC
     kinases, and expression is associated with proliferative diseases such as
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     cancer. The MCK-10 receptor tyrosine kinase has extensive sequence
CC
     similarity to the insulin receptor family. The MCK-10 gene was isolated
CC
     by PCR using 2 degenerate oligonucleotide primer pools, using a template
CC
     cDNA synthesised by reverse transcription of poly-A RNA from the human
CC
     mammary carcinoma cell line MCF7. MCK-10 is expressed in brain tissue,
CC
     and the protein shares homology with the tyrosine kinase neurotropin
CC
     receptor. Modulation of MCK-10 activity therefore may be used for
CC
     treatment of neurological disorders. MCK-10 is also expressed in a
CC
     variety of cancer cell lines and tumour tissue. The present sequence, or
CC
     parts of it, can be used for diagnostic purposes to detect aberrant
     expression of MCK-10 genes. Inhibitors of MCK-10 receptor activity may
CC
     have therapeutic value in the treatment of diseases such as cancer
CC
хx
     Sequence 3962 BP; 735 A; 1234 C; 1182 G; 811 T; 0 U; 0 Other;
                           94.9%; Score 3451; DB 2; Length 3962;
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XX
      26-NOV-1995 (first entry)
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xx
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XX
     Ullrich A, Alves FHE;
ΡI
XX
     WPI: 1995-224055/29.
DR
     P-PSDB; AAR75504.
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     New nucleic acid encoding CCK-2 receptor tyrosine kinase - and derived
PT
     vectors, transformed cells, proteins and antibodies, useful for diagnosis
PT
     and treatment of proliferative and nervous system diseases and for
PΤ
PT
     screening modulators.
XX
     Disclosure; Page 67-69; 115pp; English.
ХX
     cDNA prepd. from human breast cancer cell line MCF7 (ATCC HTB22) was used
CC
     in a PCR with two degenerate oligo primer pools based on conserved
CC
     sequences of the kinase domain of receptor tyrosine kinases. One clone,
CC
     designated MCK-10, was identified as novle RTK. The PCR fragment was used
CC
     to screen a lambda gt11 library of human fetal brain cDNA. Several
CC
     overlapping clones were identified. The composite of these cDNA clones is
CC
     given in AAQ92522 and the deduced AA sequence in AAR75504. Some of the
CC
     clones had a deletion of 6AA at posn. 2315 in the MCK-10 sequence. MCK-10
CC
     has all the characteristics of a receptor PTK (see AAR75504 {\rm FT}).
CC
     Screening of human placental library yielded two cDNA clones. One of the
CC
     clones isolated from the human fetal brain library contained an
CC
     additional 18 nts in the TK domain. The MCK-10 splice isoforms have been
CC
     designated MCK-10-1 (with an additional 111 bp between nts 1832 and 1943)
CC
     ; MCK-10-2 (without any insertions); MCK-10-3 (with the additional 111 \,
CC
     bps and 18 bp in the TK domain); and MCK-10-4 (with the additional 18
CC
     bp). The predicted mol. wts. of MCK-10-1 and MCK-10-2 proreceptors are
CC
     101.13 and 97.17 kD respectively, and can thus be subdivided into a 34.31
CC
     kD alpha subunit and a 66.84 or 62.88 kD beta subunits that contain the
CC
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TK homology and alternative splice sites

94.8%; Score 3449.4; DB 2; Length 3962; 97.0%; Pred. No. 0; Query Match Best Local Similarity

Sequence 3962 BP; 735 A; 1235 C; 1181 G; 811 T; 0 U; 0 Other;

Matches 3588; Conservative 0; Mismatches 6; Indels 105; Gaps

Issued:

CC XX

### SUMMARIES

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| 2             | 3637   | 100.0          | 3637   | 3  | US-08-170-558-3    | Sequence 3, Appli |
| 3             | 3637   | 100.0          | 3637   | 3  | US-08-447-314-3    | Sequence 3, Appli |
| 4             | 3637   | 100.0          | 3637   | 3  | US-08-445-461-3    | Sequence 3, Appli |
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| 6             | 3451   | 94.9           | 3962   | 1  | US-08-336-343A-1   | Sequence 1, Appli |
| 7             | 3399.6 | 93.5           | 3803   | 4  | US-09-023-655-1272 | Sequence 1272, Ap |
| 8             | 1197   | 32.9           | 1197   | 1  | US-08-445-640-7    | Sequence 7, Appli |
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         1197
                                                            Sequence 7, Appli
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                                                            Sequence 19, Appl
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; Patent No. 5709858
  GENERAL INFORMATION:
    APPLICANT: Godowski, Paul J.
    APPLICANT: Mark, Melanie R.
    APPLICANT: Scadden, David T. APPLICANT: Baker, Kevin P.
    APPLICANT: Baron, Will F.
    TITLE OF INVENTION: Protein Tyrosine Kinases NUMBER OF SEQUENCES: 35
    CORRESPONDENCE ADDRESS:
      ADDRESSEE: Genentech, Inc.
       STREET: 460 Point San Bruno Blvd
      CITY: South San Francisco
       STATE: California
       COUNTRY: USA
       ZIP: 94080
     COMPUTER READABLE FORM:
       MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
       COMPUTER: IBM PC compatible
       OPERATING SYSTEM: PC-DOS/MS-DOS
       SOFTWARE: patin (Genentech)
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      APPLICATION NUMBER: US/08/445,640
       FILING DATE: 22-MAY-1995
       CLASSIFICATION: 435
     PRIOR APPLICATION DATA:
       APPLICATION NUMBER: 08/170558
       FILING DATE: 20-DEC-1993
     PRIOR APPLICATION DATA:
      APPLICATION NUMBER: 08/157563
       FILING DATE: 23-NOV-1993
    ATTORNEY/AGENT INFORMATION:
      NAME: Hasak, Janet E.
       REGISTRATION NUMBER: 28,616
       REFERENCE/DOCKET NUMBER: 854C2
    TELECOMMUNICATION INFORMATION:
      TELEPHONE: 415/225-1896
       TELEFAX: 415/952-9881
       TELEX: 910/371-7168
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       TOPOLOGY: linear
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; Patent No. 6001621
  GENERAL INFORMATION:
     APPLICANT: Godowski, Paul J.
     APPLICANT: Mark, Melanie R.
    APPLICANT: Scadden, David T.
    APPLICANT: Baker, Kevin P.
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APPLICANT: Baron, Will F.
    TITLE OF INVENTION: Protein Tyrosine Kinases
    NUMBER OF SEQUENCES: 35
    CORRESPONDENCE ADDRESS:
      ADDRESSEE: Genentech, Inc.
      STREET: 460 Point San Bruno Blvd
      CITY: South San Francisco
      STATE: California
      COUNTRY: USA
      ZIP: 94080
    COMPUTER READABLE FORM:
      MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
      COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
      SOFTWARE: patin (Genentech)
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      FILING DATE: 20-DEC-1993
      CLASSIFICATION: 435
    PRIOR APPLICATION DATA:
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      FILING DATE: 23-NOV-1993
    ATTORNEY/AGENT INFORMATION:
      NAME: Hasak, Janet E.
      REGISTRATION NUMBER: 28,616
      REFERENCE/DOCKET NUMBER: 854C1
    TELECOMMUNICATION INFORMATION:
      TELEPHONE: 415/225-1896
      TELEFAX: 415/952-9881
      TELEX: 910/371-7168
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    APPLICANT: Scadden, David T.
    APPLICANT: Baker, Kevin P.
     APPLICANT: Baron, Will F.
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     CORRESPONDENCE ADDRESS:
       ADDRESSEE: Genentech, Inc.
       STREET: 460 Point San Bruno Blvd
       CITY: South San Francisco
       STATE: California
       COUNTRY: USA
       ZIP: 94080
     COMPUTER READABLE FORM:
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      FILING DATE: 23-NOV-1993
    ATTORNEY/AGENT INFORMATION:
      NAME: Hasak, Janet E.
      REGISTRATION NUMBER: 28,616
      REFERENCE/DOCKET NUMBER: 854C1D2
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      TELEPHONE: 415/225-1896
      TELEFAX: 415/952-9881
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     APPLICANT: Godowski, Paul J.
    APPLICANT: Mark, Melanie R.
APPLICANT: Scadden, David T.
    APPLICANT: Baker, Kevin P.
    APPLICANT: Baron, Will F.
     TITLE OF INVENTION: Protein Tyrosine Kinases
    NUMBER OF SEQUENCES: 35
     CORRESPONDENCE ADDRESS:
      ADDRESSEE: Genentech, Inc.
      STREET: 460 Point San Bruno Blvd
      CITY: South San Francisco
      STATE: California
      COUNTRY: USA
      ZIP: 94080
     COMPUTER READABLE FORM:
      MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
       COMPUTER: IBM PC compatible
       OPERATING SYSTEM: PC-DOS/MS-DOS
       SOFTWARE: patin (Genentech)
     CURRENT APPLICATION DATA:
       APPLICATION NUMBER: US/08/445,461
       FILING DATE: 22-MAY-1995
       CLASSIFICATION: 530
     PRIOR APPLICATION DATA:
       APPLICATION NUMBER: 08/170558
       FILING DATE: 20-DEC-1993
     PRIOR APPLICATION DATA:
       APPLICATION NUMBER: 08/157563
       FILING DATE: 23-NOV-1993
     ATTORNEY/AGENT INFORMATION:
      NAME: Hasak, Janet E.
       REGISTRATION NUMBER: 28,616
       REFERENCE/DOCKET NUMBER: 854C3
     TELECOMMUNICATION INFORMATION:
       TELEPHONE: 415/225-1896
       TELEFAX: 415/952-9881
       TELEX: 910/371-7168
   INFORMATION FOR SEQ ID NO: 3:
     SEQUENCE CHARACTERISTICS:
       LENGTH: 3637 bases
       TYPE: nucleic acid
       STRANDEDNESS: single
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TOPOLOGY: linear US-08-445-461-3

Query Match 100.0%; Score 3637; DB 3; Length 3637; Best Local Similarity 100.0%; Pred. No. 0; Matches 3637; Conservative 0; Mismatches 0; Indels 0; 0; Indels 0; Gaps

# SUMMARIES

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| 2      | 3261   | 89.7  | 3840   | 3        | BC013400 | BC013400 Ho | mo sapi    |
| 3      | 2407.8 | 66.2  | 2742   | 9        | AY412941 | AY412941 Ho | mo sapi    |
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| 5      | 2146   | 59.0  | 3594   | 3        | AK031442 | AK031442 Mu | s muscu    |
| 6      | 2141.8 | 58.9  | 3012   | 3        | BC037108 | BC037108 Mu | s muscu    |
| 7      | 1904   | 52.4  | 2721   | 9        | AY412943 | AY412943 Mu | s muscu    |
| 8      | 1746.4 | 48.0  | 2633   | 3        | BC006836 | BC006836 Mu | s muscu    |
| 9      | 912.6  | 25.1  | 997    | 5        | BX456402 | BX456402 BX | 456402     |
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SEQ ID NO: 7

## SUMMARIES

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| 1                              | 119   |                  | 1197                               | 6      | AR094162             |                   | 4162 Sequence<br>3006 Sequence |  |  |
| 2                              | 119   |                  | 1197                               | 6      | AR103006             |                   | 5290 Sequence                  |  |  |
| 3                              | 119   |                  | 1197                               | 6      | AR105290             |                   | 47 Sequence 7                  |  |  |
| 4                              | 119   |                  | 1197                               | 6      | I80847               |                   | 4160 Sequence                  |  |  |
| 5                              | 119   |                  | 3637<br>3637                       | 6<br>6 | AR094160<br>AR103004 |                   | 3004 Sequence                  |  |  |
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| 9                              | 1195  |                  | 3692                               | 9      | HUMCAKA              |                   | 08 Homo sapien                 |  |  |
| 10                             | 1195. |                  | 3803                               | 6      | AR380727             |                   | 0727 Sequence                  |  |  |
| 10                             | 1195. |                  | 3803                               | 9      | HUMCAK               |                   | 17 Homo sapien                 |  |  |
| 12                             | 1195  |                  | 3841                               | 9      | HSRETYK1             |                   | 93 H.sapiens E                 |  |  |
| 13                             | 1193. |                  | 2631                               | 12     | AY335786             |                   | 35786 Synthetic                |  |  |
| 13                             | 1193  |                  | 2631                               | 12     |                      |                   | 08202 Synthetic                |  |  |
| 15                             |       |                  | 3609                               | 9      | BC070070             |                   | 0070 Homo sapi                 |  |  |
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| 18                             |       |                  |                                    | 9      | HSTRKE               | X74979 H.sapiens  |                                |  |  |
| 19 1192.2                      |       |                  | 3829                               | 6      | CQ722450             | CQ722450 Sequence |                                |  |  |
| 19.                            | 1172. | . 2              | 3023                               | Ü      | 00,722130            | 02.2              |                                |  |  |
|                                |       |                  |                                    |        |                      |                   |                                |  |  |
| RESULT                         | 1     |                  |                                    |        |                      |                   |                                |  |  |
| AR09416                        |       |                  |                                    |        |                      |                   |                                |  |  |
| LOCUS                          |       | AR094162         |                                    |        | 1197 bp DNA          | linear            | PAT 08-SEP-2000                |  |  |
| DEFINIT                        | ION S | Sequence         | 7 from r                           | ate    | nt US 6001621.       |                   |                                |  |  |
| ACCESSI                        |       | AR094162         | •                                  |        |                      |                   |                                |  |  |
| VERSION                        |       | AR094162.        | 1 GI:10                            | 020    | 907                  |                   |                                |  |  |
| KEYWORD                        | s .   |                  |                                    |        |                      |                   | 1                              |  |  |
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| REFERENCE 1 (bases 1 to 1197)  |       |                  |                                    |        |                      |                   |                                |  |  |
| AUTHO                          | RS (  | Godowski,        | i,P.J., Mark,M.R. and Scadden,D.T. |        |                      |                   |                                |  |  |
| TITLE Protein tyrosine kinases |       |                  |                                    |        |                      |                   |                                |  |  |
| JOURN                          | AL I  | Patent: U        | S 600162                           | 21-A   | 7 14-DEC-1999;       |                   |                                |  |  |
| FEATURE                        | S     |                  | Location                           | ı/Qu   | alifiers             |                   |                                |  |  |
| so                             | urce  |                  | 11197                              | 7      |                      |                   |                                |  |  |
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            Scadden, D.T., Baker, K.P. and Baron, W.F.
  AUTHORS
            Protein tyrosine kinases
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REFERENCE
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  AUTHORS
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  TITLE
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            Godowski, P.J., Mark, M.R. and Scadden, D.T.
  AUTHORS
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REFERENCE
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  AUTHORS
            Scadden, D.T., Baker, K.P. and Baron, W.F.
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  TITLE
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Patent: US)5709858-A 7 20-JAN-1998;

JOURNAL

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REFERENCE 1 (bases 1 to 3637)
            Godowski, P.J., Mark, M.R. and Scadden, D.T.
 AUTHORS
            Nucleic acids encoding protein tryosine kinases
Patent: US 6096527-A 3 01-AUG-2000;
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 JOURNAL
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 ORGANISM Unknown.
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REFERENCE
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            Antibodies specific for Rse receptor protein tyrosine kinase
  TITLE
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|        |        |       |        |    |          |                    |
| 3      | 1195.4 | 99.9  | 3952   | 10 | ADE24732 | Ade24732 Human DDR |
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| 5      | 1195.4 | 99.9  | 3970   | 12 | ADL26773 | Adl26773 Human DDR |
| 6      | 1193.8 | 99.7  | 3849   | 6  | ABV99141 | Abv99141 Human pan |
| 7      | 1192.2 | 99.6  | 3554   | 6  | AAS16842 | Aas16842 Human epi |
| 8      | 1192.2 | 99.6  | 3962   | 2  | AAQ92522 | Aaq92522 Human mam |
| 9      | 1192.2 | 99.6  | 3962   | 2  | AAQ92520 | Aaq92520 Human mam |
| - 10   | 1192.2 | 99.6  | 3962   | 2  | AAT93785 | Aat93785 Human mam |
| 11     | 1179.2 | 98.5  | 3754   | 12 | ADE79939 | Ade79939 Human dis |
| 12     | 1171.2 | 97.8  | 3754   | 2  | AAQ84782 | Aaq84782 Protein-t |
| 13     | 1170.4 | 97.8  | 4184   | 12 | ADQ22540 | Adq22540 Human sof |
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| 15     | 473.8  | 39.6  | 2861   | 3  | AAC99051 | Aac99051 Human pan |
| 16     | 473.8  | 39.6  | 2861   | 4  | AAH33198 | Aah33198 Human col |
| 17     | 378.4  | 31.6  | 12010  | 6  | ABN96872 | Abn96872 Gene #337 |
| 18     | 378.4  | 31.6  | 12010  | 10 | ADK60904 | Adk60904 Ovarian c |
| . 19   | 378.4  | 31.6  | 12010  | 11 | ADO18789 | Ado18789 Human tyr |
| 20     | 327.4  | 27.4  | 2648   | 11 | ADM29347 | Adm29347 Human nov |
| 21     | 327.4  | 27.4  | 3096   | 2  | AAV48292 | Aav48292 Discoidin |
| 22     | 327.4  | 27.4  | 3096   | 6  | ABZ35285 | Abz35285 Human gen |

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XX
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XX
     17-JUN-2004 (first entry)
DT
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     Human cDNA #1272.
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XX
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KW
     Crohn's disease; asthma; ulcerative colitis; hypereosinophilia;
KW
     irritable bowel syndrome; osteoarthritis; rheumatoid arthritis;
ĸw
     acute monocytic leukaemia; antiinflammatory; antiasthmatic; antiulcer;
KW
     osteopathic; antiarthritic; antirheumatic; cytostatic.
ХX
OS
     Homo sapiens.
XX
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PD
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XX
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PR
XX
     (INCY-) INCYTE CORP.
ХX
PΙ
     Cocks BG, Stuart SG, Seilhamer JJ;
XX
DR
     WPI; 2003-895307/82.
xx
     A composition comprising a plurality of cDNAs, useful for detecting
РΤ
     altered expression of genes in an immunological response or for
PТ
     diagnosing and treating an immunopathology, e.g. Crohn's disease, asthma
PT
     or osteoarthritis.
PT
XX
     Claim 1; SEQ ID NO 1272; 50pp; English.
PS
XX
     The invention relates to a composition comprising a plurality of cDNAs
CC
     for detecting the altered expression of genes in an immunological
CC
CC
     response. The invention also relates to a method of diagnosing or
     monitoring the treatment of an immunopathological condition in a sample,
CC
     comprising obtaining nucleic acids from a sample, contacting the nucleic
     acids of the sample with an array comprising the plurality of cDNAs under
CC
     conditions to form one or more hybridisation complexes, detecting the
CC
     hybridisation complexes and comparing the levels of the detected
     hybridisation complexes with the level of hybridisation complexes
CC
     detected in a non-diseased sample, where an altered level of the detected
     hybridisation complexes correlates with the presence of an
CC
     immunopathological condition. Also disclosed are an expression profile
CC
     comprising a microarray and a plurality of detectable complexes and a
CC
     method for identifying a plurality of polynucleotide probes. The cDNAs
CC
CC
     are useful as hybridisable array elements in a microarray for monitoring
     the expression of target polynucleotides. The microarray can be used in
CC
CC
     the diagnosis of an immunopathology, such as Crohn's disease, asthma,
     ulcerative colitis, hypereosinophilia, irritable bowel syndrome,
CC
     osteoarthritis, rheumatoid arthritis or acute monocytic leukaemia, and in
CC
CC
     identifying agents for the treatment of the diseases. The microarray may
     also be used in drug discovery and development, toxicological and
CC
     carcinogenicity studies, forensics or pharmacogenomics. The composition
CC
     may also be used in purification of a subpopulation of mRNAs, cDNAs or
     genomic fragments. This sequence represents a human cDNA of the
CC
     invention. Note: The sequence data for this patent did not form part of
     the printed specification but was obtained in electronic format directly
CC
CC
     from USPTO at seqdata.uspto.gov/sequence.html.
XX
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                          99.9%; Pred. No. 6.9e-278;
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XX
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XX
DT
     29-JAN-2004 (first entry)
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DE
ХX
KW
     brain tumour; discoidin domain receptor family member 1; DDR1;
KW
     cytostatic; gene therapy; human; gene; ss.
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xx
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DR
DR
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XX
PT
     Diagnosing or staging brain tumor, useful for treating or imaging brain
PT
     tumor, comprises determining the upregulation of DDR1 mRNA or polypeptide
РΤ
     in the brain tumor.
XX
PS
     Disclosure; SEQ ID NO 1; 107pp; English.
XX
CC
     The present invention describes a method for diagnosing or staging brain
CC
     tumour comprising determining the upregulation of discoidin domain
CC
     receptor family member 1 (DDR1) mRNA or polypeptide in the brain tumour.
CC
     Also described: (1) a method of treating brain tumour by administering a
CC
     therapeutic amount of a compound that binds to, or inhibits, DDR1; (2) a
CC
     method of imaging a brain tumour by administering to a patient a compound
CC
     that specifically binds DDR1, where the compound is conjugated to an
CC
     imaging moiety; and (3) a method of screening candidate agents for
CC
     modulation of a brain tumour target protein by combining a candidate
CC
     biologically active agent with any one of a DDR1 polypeptide, a cell
CC
     comprising a nucleic acid encoding and expressing DDR1 polypeptide, or a
CC
     non-human transgenic animal model for brain tumour gene function
CC
     comprising a knockout of DDR1, an exogenous and stably transmitted DDR1
CC
     sequence; and determining the effect of the agent on DDR1 activity, where
CC
     the agents that modulate polypeptide activity provide for molecular and
     cellular changes in brain tumour cells. DDR1 has cytostatic activity, and
CC
CC
     can be used in gene therapy. The methods are useful for diagnosing,
CC
     staging, imaging and treating brain tumour. The present sequence encodes
CC
     human DDR1 transcript variant 2, which is used in the exemplification of
CC
     the present invention.
XX
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| 6                            | 1197  | 100.0                      | 3637    |       | US-08-170-558-3                        |
| . 7                          | 1197  | 100.0                      |         |       | US-08-447-314-3                        |
| 8                            | 1197  |                            |         |       | US-08-445-461-3                        |
| 9<br>10                      |   | 99.9<br>99.7               |         |       | US-09-023-655-1272<br>US-09-140-378A-1 |
| 11                           |   |                            |         |       | US-08-336-343A-1                       |
| 12                           | 327.4   | 27.4                       |         |       |  |
| c 13                         | 327.4   | 27.4                       |         |       | US-08-336-343A-5                       |
| 14                           | 321   | 26.8                       | 3120    | 1     | US-08-456-647B-19                      |
| 15                           | 321   | 26.8                       | 3120    | 2     | US-08-237-401A-19                      |
| ; Seque<br>; Pater<br>; GENE | 45-640-7<br>ence 7, A<br>it No. 57<br>ERAL INFO | pplicat<br>09858<br>RMATIO | N:      |       |  |
|                              | PLICANT:  |                            |         |       |  |
|                              | PLICANT:  | Scade                      | den, Da | re k  | т                                      |
|                              | PLICANT:  |                            |         |       |  |
|                              | PLICANT:  | Baro                       | n, Will | F.    | ,                                      |
|                              | TLE OF I  |                            |         |       | n Tyrosine Kinases                     |
| ; NU                         | MBER OF   | SEQUEN                     | CES: 3  | 5     |  |
| ; CC                         | RRESPOND  |                            |         |       |  |
| ;                            | ADDRESSE  |                            |         |       |  |
| ;                            |   |                            |         |       | uno Blvd                               |
| ;                            | CITY: S   |                            |         | CISC  |  |
| ;<br>;                       | COUNTRY:  |                            | IIIIa   |       |  |
| ;                            | ZIP: 94   |                            |         |       |  |
|                              | MPUTER R  |                            | E FORM: |       |  |
| ;                            | MEDIUM T  | YPE:                       | 5.25 in | ch,   | 360 Kb floppy disk                     |
| ;                            | COMPUTER  |                            |         |       |  |
| ;                            | OPERATIN  |                            |         |       |  |
| ;                            | SOFTWARE  | _                          |         |       | ech)                                   |
|                              | JRRENT AF                                       |                            |         |       | 19/445 640                             |
| ;                            | FILING D  |                            |         |       | 8/445,640                              |
| ;<br>;                       | CLASSIFI  |                            |         | 1,,,, | •                                      |
|                              | RIOR APPL                                       |                            |         |       |  |
|                              | APPLICAT  | UN NOI                     | MBER:   | 08/1  | .70558                                 |
| ;                            | FILING D  |                            |         |       |  |
|                              | RIOR APPL                                       | ICATIO                     | N DATA: |       |  |
| ;                            | APPLICAT  |                            |         |       | .57563                                 |
| ;                            | FILING D  |                            | 23-NOV- |       |  |
|                              | TORNEY/A  |                            |         |       |  |
| ;                            | NAME: H   |                            |         |       | 616                                    |
| ;                            | REFERENC  |                            |         |       | 616<br>854C2                           |
| ;<br>• TF                    | ELECOMMUN                                       |                            |         |       |  |
| ; TI                         | TELEPHON  |                            |         |       |  |
| ;                            | TELEFAX:  |                            |         |       |  |
| ;                            | TELEX:  |                            |         |       |  |
|                              | RMATION   | FOR SE                     | Q ID NO | : 7   | <b>'</b> :                             |
| ; SI                         | EQUENCE C                                       |                            |         | S:    |  |
| ;                            | LENGTH:   |                            |         |       |  |
| ;                            |   | ucleic                     |         |       | •                                      |
| ;                            | STRANDED  | NESS:                      | single  |       |  |

TOPOLOGY: linear

Description

Sequence 7, Appli Sequence 7, Appli Sequence 7, Appli Sequence 7, Appli Sequence 3, Appli Sequence 3, Appli Sequence 3, Appli Sequence 3, Appli Sequence 1272, Appli

Sequence 3, Appl1 Sequence 1272, Ap Sequence 1, Appli Sequence 1, Appli Sequence 3, Appli Sequence 5, Appli Sequence 19, Appl Sequence 19, Appl

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US-08-445-640-7
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Query Match 100.0%; Score 1197; DB 1; Length 1197; Best Local Similarity 100.0%; Pred. No. 4.5e-310;
 Matches 1197; Conservative 0; Mismatches 0; Indels
                                                                    0; Gaps
                                                                                0;
RESULT 2
US-08-170-558-7
; Sequence 7, Application US/08170558
 Patent No. 6001621
 GENERAL INFORMATION:
    APPLICANT: Godowski, Paul J. APPLICANT: Mark, Melanie R.
     APPLICANT: Scadden, David T.
     APPLICANT: Baker, Kevin P.
     APPLICANT: Baron, Will F.
     TITLE OF INVENTION: Protein Tyrosine Kinases
     NUMBER OF SEQUENCES: 35
     CORRESPONDENCE ADDRESS:
       ADDRESSEE: Genentech, Inc.
      STREET: 460 Point San Bruno Blvd
       CITY: South San Francisco
       STATE: California
       COUNTRY: USA
       ZIP: 94080
     COMPUTER READABLE FORM:
       MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
      COMPUTER: IBM PC compatible
      OPERATING SYSTEM: PC-DOS/MS-DOS
       SOFTWARE: patin (Genentech)
     CURRENT APPLICATION DATA:
      APPLICATION NUMBER: US/08/170,558
       FILING DATE: 20-DEC-1993
      CLASSIFICATION: 435
     PRIOR APPLICATION DATA:
      APPLICATION NUMBER: 08/157563
       FILING DATE: 23-NOV-1993
     ATTORNEY/AGENT INFORMATION:
      NAME: Hasak, Janet E.
       REGISTRATION NUMBER: 28,616
      REFERENCE/DOCKET NUMBER: 854C1
     TELECOMMUNICATION INFORMATION:
       TELEPHONE: 415/225-1896
       TELEFAX: 415/952-9881
      TELEX: 910/371-7168
  INFORMATION FOR SEQ ID NO: 7:
     SEQUENCE CHARACTERISTICS:
      LENGTH: 1197 bases
       TYPE: nucleic acid
       STRANDEDNESS: single
       TOPOLOGY: linear
US-08-170-558-7
 Query Match 100.0%; Score 1197; DB 3; Length 1197; Best Local Similarity 100.0%; Pred. No. 4.5e-310;
                                                    0; Indels `0; Gaps
  Matches 1197; Conservative 0; Mismatches
RESULT 3
US-08-447-314-7
; Sequence 7, Application US/08447314
; Patent No. 6087144
; GENERAL INFORMATION:
    APPLICANT: Scadden, David T.
    APPLICANT: Baker, Kevin P.
     APPLICANT: Baron, Will F.
    TITLE OF INVENTION: Protein Tyrosine Kinases NUMBER OF SEQUENCES: 35
     CORRESPONDENCE ADDRESS:
       ADDRESSEE: Genentech, Inc.
```

```
STREET: 460 Point San Bruno Blvd
       CITY: South San Francisco
       STATE: California
       COUNTRY: USA
       ZIP: 94080
     COMPUTER READABLE FORM:
       MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
       COMPUTER: IBM PC compatible
       OPERATING SYSTEM: PC-DOS/MS-DOS
       SOFTWARE: patin (Genentech)
     CURRENT APPLICATION DATA:
       APPLICATION NUMBER: US/08/447,314
       FILING DATE: 22-MAY-1995
       CLASSIFICATION: 435
     PRIOR APPLICATION DATA:
       APPLICATION NUMBER: 08/170558
       FILING DATE: 20-DEC-1993
     PRIOR APPLICATION DATA:
       APPLICATION NUMBER: 08/157563
       FILING DATE: 23-NOV-1993
     ATTORNEY/AGENT INFORMATION:
       NAME: Hasak, Janet E.
       REGISTRATION NUMBER: 28,616
       REFERENCE/DOCKET NUMBER: 854C1D2
     TELECOMMUNICATION INFORMATION:
       TELEPHONE: 415/225-1896
       TELEFAX: 415/952-9881
       TELEX: 910/371-7168
   INFORMATION FOR SEQ ID NO: 7:
     SEQUENCE CHARACTERISTICS:
       LENGTH: 1197 bases
       TYPE: nucleic acid
       STRANDEDNESS: single
       TOPOLOGY: linear
US-08-447-314-7
  Query Match 100.0%; Score 1197; DB 3; Length 1197; Best Local Similarity 100.0%; Pred. No. 4.5e-310;
  Matches 1197; Conservative 0; Mismatches 0; Indels
RESULT 4
US-08-445-461-7
; Sequence 7, Application US/08445461
 Patent No. 6096527
  GENERAL INFORMATION:
    APPLICANT: Godowski, Paul J.
APPLICANT: Mark, Melanie R.
APPLICANT: Scadden, David T.
     APPLICANT: Baker, Kevin P.
     APPLICANT: Baron, Will F.
     TITLE OF INVENTION: Protein Tyrosine Kinases
     NUMBER OF SEQUENCES: 35
     CORRESPONDENCE ADDRESS:
       ADDRESSEE: Genentech, Inc.
       STREET: 460 Point San Bruno Blvd
       CITY: South San Francisco
STATE: California
       COUNTRY: USA
       ZIP: 94080
     COMPUTER READABLE FORM:
       MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
       COMPUTER: IBM PC compatible
       OPERATING SYSTEM: PC-DOS/MS-DOS
       SOFTWARE: patin (Genentech)
     CURRENT APPLICATION DATA:
       APPLICATION NUMBER: US/08/445,461
       FILING DATE: 22-MAY-1995
       CLASSIFICATION: 530
     PRIOR APPLICATION DATA:
       APPLICATION NUMBER: 08/170558
```

```
FILING DATE: 20-DEC-1993
     PRIOR APPLICATION DATA:
      APPLICATION NUMBER: 08/157563
      FILING DATE: 23-NOV-1993
     ATTORNEY/AGENT INFORMATION:
      NAME: Hasak, Janet E.
      REGISTRATION NUMBER: 28,616
      REFERENCE/DOCKET NUMBER: 854C3
    TELECOMMUNICATION INFORMATION:
      TELEPHONE: 415/225-1896
      TELEFAX: 415/952-9881
      TELEX: 910/371-7168
  INFORMATION FOR SEQ ID NO: 7:
    SEQUENCE CHARACTERISTICS:
      LENGTH: 1197 bases
      TYPE: nucleic acid
      STRANDEDNESS: single
      TOPOLOGY: linear
US-08-445-461-7
                         100.0%; Score 1197; DB 3; Length 1197;
 Query Match
 Best Local Similarity 100.0%; Pred. No. 4.5e-310;
 Matches 1197; Conservative 0; Mismatches
                                                0; Indels
                                                                0; Gaps
                                                                            0;
RESULT 5
US-08-445-640-3
; Sequence 3, Application US/08445640
; Patent No. 5709858
; GENERAL INFORMATION:
    APPLICANT: Godowski, Paul J.
    APPLICANT: Mark, Melanie R.
    APPLICANT: Scadden, David T.
    APPLICANT: Baker, Kevin P. APPLICANT: Baron, Will F.
    TITLE OF INVENTION: Protein Tyrosine Kinases
    NUMBER OF SEQUENCES: 35
    CORRESPONDENCE ADDRESS:
      ADDRESSEE: Genentech, Inc.
      STREET: 460 Point San Bruno Blvd
      CITY: South San Francisco
      STATE: California
      COUNTRY: USA
      ZIP: 94080
    COMPUTER READABLE FORM:
    MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
      COMPUTER: IBM PC compatible
      OPERATING SYSTEM: PC-DOS/MS-DOS
      SOFTWARE: patin (Genentech)
    CURRENT APPLICATION DATA:
      APPLICATION NUMBER: US/08/445,640
      FILING DATE: 22-MAY-1995
      CLASSIFICATION: 435
    PRIOR APPLICATION DATA:
      APPLICATION NUMBER: 08/170558
      FILING DATE: 20-DEC-1993
    PRIOR APPLICATION DATA:
      APPLICATION NUMBER: 08/157563
      FILING DATE: 23-NOV-1993
    ATTORNEY/AGENT INFORMATION:
      NAME: Hasak, Janet E.
      REGISTRATION NUMBER: 28,616
      REFERENCE/DOCKET NUMBER: 854C2
    TELECOMMUNICATION INFORMATION:
      TELEPHONE: 415/225-1896
      TELEFAX: 415/952-9881
      TELEX: 910/371-7168
  INFORMATION FOR SEQ ID NO: 3:
    SEQUENCE CHARACTERISTICS:
      LENGTH: 3637 bases
      TYPE: nucleic acid
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STRANDEDNESS: single
       TOPOLOGY: linear
US-08-445-640-3
  Query Match 100.0%; Score 1197; DB 1; Length 3637; Best Local Similarity 100.0%; Pred. No. 6.8e-310;
  Matches 1197; Conservative 0; Mismatches 0; Indels
                                                                     0; Gaps
RESULT 6
US-08-170-558-3
; Sequence 3, Application US/08170558
; Patent No. 6001621
; GENERAL INFORMATION:
    APPLICANT: Godowski, Paul J.
APPLICANT: Mark, Melanie R.
APPLICANT: Scadden, David T.
     APPLICANT: Baker, Kevin P. APPLICANT: Baron, Will F.
     TITLE OF INVENTION: Protein Tyrosine Kinases
     NUMBER OF SEQUENCES: 35
     CORRESPONDENCE ADDRESS:
       ADDRESSEE: Genentech, Inc.
       STREET: 460 Point San Bruno Blvd
       CITY: South San Francisco
       STATE: California
       COUNTRY: USA
       ZIP: 94080
     COMPUTER READABLE FORM:
       MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
       COMPUTER: IBM PC compatible
       OPERATING SYSTEM: PC-DOS/MS-DOS
       SOFTWARE: patin (Genentech)
     CURRENT APPLICATION DATA:
       APPLICATION NUMBER: US/08/170,558
       FILING DATE: 20-DEC-1993
       CLASSIFICATION: 435
     PRIOR APPLICATION DATA:
       APPLICATION NUMBER: 08/157563
       FILING DATE: 23-NOV-1993
     ATTORNEY/AGENT INFORMATION:
       NAME: Hasak, Janet E.
       REGISTRATION NUMBER: 28,616
       REFERENCE/DOCKET NUMBER: 854C1
     TELECOMMUNICATION INFORMATION:
       TELEPHONE: 415/225-1896
       TELEFAX: 415/952-9881
       TELEX: 910/371-7168
   INFORMATION FOR SEQ ID NO: 3:
     SEQUENCE CHARACTERISTICS:
       LENGTH: 3637 bases
       TYPE: nucleic acid
       STRANDEDNESS: single
       TOPOLOGY: linear
US-08-170-558-3
 Query Match 100.0%; Score 1197; DB 3; Length 3637; Best Local Similarity 100.0%; Pred. No. 6.8e-310;
 Matches 1197; Conservative 0; Mismatches 0; Indels
RESULT 7
US-08-447-314-3
; Sequence 3, Application US/08447314
; Patent No. 6087144
; GENERAL INFORMATION:
    APPLICANT: Scadden, David T.
    APPLICANT: Baker, Kevin P.
```

APPLICANT: Baron, Will F.

```
TITLE OF INVENTION: Protein Tyrosine Kinases
     NUMBER OF SEQUENCES: 35
     CORRESPONDENCE ADDRESS:
       ADDRESSEE: Genentech, Inc.
       STREET: 460 Point San Bruno Blvd
       CITY: South San Francisco
       STATE: California
       COUNTRY: USA
       ZIP: 94080
     COMPUTER READABLE FORM:
       MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
       COMPUTER: IBM PC compatible
       OPERATING SYSTEM: PC-DOS/MS-DOS
       SOFTWARE: patin (Genentech)
     CURRENT APPLICATION DATA:
       APPLICATION NUMBER: US/08/447,314
       FILING DATE: 22-MAY-1995
       CLASSIFICATION: 435
     PRIOR APPLICATION DATA:
       APPLICATION NUMBER: 08/170558
       FILING DATE: 20-DEC-1993
     PRIOR APPLICATION DATA:
       APPLICATION NUMBER: 08/157563
       FILING DATE: 23-NOV-1993
     ATTORNEY/AGENT INFORMATION:
       NAME: Hasak, Janet E.
       REGISTRATION NUMBER: 28,616
       REFERENCE/DOCKET NUMBER: 854C1D2
     TELECOMMUNICATION INFORMATION:
       TELEPHONE: 415/225-1896
       TELEFAX: 415/952-9881
       TELEX: 910/371-7168
   INFORMATION FOR SEQ ID NO: 3:
     SEQUENCE CHARACTERISTICS:
       LENGTH: 3637 bases
       TYPE: nucleic acid
       STRANDEDNESS: single
       TOPOLOGY: linear
US-08-447-314-3
 Query Match 100.0%; Score 1197; DB 3; Length 3637; Best Local Similarity 100.0%; Pred. No. 6.8e-310;
  Matches 1197; Conservative 0; Mismatches 0; Indels
                                                                                0;
RESULT 8
US-08-445-461-3
; Sequence 3, Application US/08445461
; Patent No. 6096527
; GENERAL INFORMATION:
     APPLICANT: Godowski, Paul J.
     APPLICANT: Mark, Melanie R.
    APPLICANT: Scadden, David T.
APPLICANT: Baker, Kevin P.
APPLICANT: Baron, Will F.
     TITLE OF INVENTION: Protein Tyrosine Kinases
    NUMBER OF SEQUENCES: 35
     CORRESPONDENCE ADDRESS:
       ADDRESSEE: Genentech, Inc.
       STREET: 460 Point San Bruno Blvd
       CITY: South San Francisco
       STATE: California
       COUNTRY: USA
       ZIP: 94080
     COMPUTER READABLE FORM:
       MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
       COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
       SOFTWARE: patin (Genentech)
     CURRENT APPLICATION DATA:
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APPLICATION NUMBER: US/08/445,461
        FILING DATE: 22-MAY-1995
        CLASSIFICATION: 530
      PRIOR APPLICATION DATA:
        APPLICATION NUMBER: 08/170558
         FILING DATE: 20-DEC-1993
      PRIOR APPLICATION DATA:
        APPLICATION NUMBER: 08/157563
        FILING DATE: 23-NOV-1993
      ATTORNEY/AGENT INFORMATION:
        NAME: Hasak, Janet E.
         REGISTRATION NUMBER: 28,616
        REFERENCE/DOCKET NUMBER: 854C3
      TELECOMMUNICATION INFORMATION:
        TELEPHONE: 415/225-1896
        TELEFAX: 415/952-9881
         TELEX: 910/371-7168
   INFORMATION FOR SEQ ID NO: 3:
      SEQUENCE CHARACTERISTICS:
         LENGTH: 3637 bases
        TYPE: nucleic acid
         STRANDEDNESS: single
        TOPOLOGY: linear
US-08-445-461-3

      Query Match
      100.0%;
      Score 1197;
      DB 3;
      Length 3637;

      Best Local Similarity
      100.0%;
      Pred. No. 6.8e-310;

      Matches 1197;
      Conservative
      0;
      Mismatches
      0;
      Indels
      0;
      Gaps

                                                                                                0;
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|        |        | _     |        |    |          |                    |
|--------|--------|-------|--------|----|----------|--------------------|
| Result |        | Query |        |    |          |                    |
| No.    | Score  | Match | Length | DB | ID       | Description        |
|        |        |       |        |    |          |                    |
| 1      | 1193.8 | 99.7  | 3840   | 3  | BC008716 | BC008716 Homo sapi |
| 2      | 1193.8 | 99.7  | 3840   | 3  | BC013400 | BC013400 Homo sapi |
| 3      | 1083.4 | 90.5  | 2742   | 9  | AY412941 | AY412941 Homo sapi |
| 4      | 1038   | 86.7  | 2742   | 9  | AY412942 | AY412942 Pan troql |
| 5      | 894    | 74.7  | 3012   | 3  | BC037108 | BC037108 Mus muscu |
| 6      | 894    | 74.7  | 3594   | 3  | AK031442 | AK031442 Mus muscu |
| 7      | 811.6  | 67.8  | 1175   | 4  | BM800022 | BM800022 AGENCOURT |
| 8      | 810.8  | 67.7  | 997    | 5  | BX456402 | BX456402 BX456402  |
| 9      | 810.2  | 67.7  | 2721   | 9  | AY412943 | AY412943 Mus muscu |
| 10     | 729    | 60.9  | 2633   | 3  | BC006836 | BC006836 Mus muscu |
| 11     | 720.2  | 60.2  | 992    | 1  | AL528664 | AL528664 AL528664  |
| 12     | 708.2  | 59.2  | 900    | 5  | BQ933041 | BQ933041 AGENCOURT |
| 13     | 694.6  | 58.0  | 999    | 5  | BX394901 | BX394901 BX394901  |
| 14     | 668.4  | 55.8  | 682    | 7  | CN362319 | CN362319 170004245 |
| 15     | 650.2  | 54.3  | 1062   | 5  | BQ073333 | BQ073333 AGENCOURT |